IN THE CLAIMS:

Please amend claims 1, 6, and 10-17 as follows. Please add new claims 19-22 as follows.

1. (Currently Amended) A method, comprising:

establishing a secure tunnel between a security gateway in a second network and a mobile terminal located at a first address in a first network, wherein the first network is a public packet network and the second network is a private packet network and the security gateway connects the first network to a second network and the mobile terminal has a second address that identifies the mobile terminal in the second network;

in the security gateway, identifying the secure tunnel based on the second address in packets destined for the mobile terminal from the second network;

detecting a change in the first address of the mobile terminal;

in response to the detecting, sending an update message to the security gateway, wherein the update message includes a new address value of the first address, and wherein the update message also includes data to be transmitted to the security gateway; and

based on the update message, updating the first address associated with the secure tunnel.

2. (Cancelled)

3. (Original) A method according to claim 1, wherein the update message is a normal data message to be transmitted to the security gateway when the change is detected.

4. (Previously Presented) A method according to claim 1, wherein the sending includes creating a dummy packet and sending it as the update message to the security gateway.

5. (Previously Presented) A method according to claim 1, wherein the sending includes creating an update message including a NAT-D payload configured to detect a network address translation device between the mobile terminal and the security gateway.

6. (Currently Amended) An apparatus, comprising:

tunnel establishment means for establishing a secure tunnel to a security gateway through a packet network; wherein the security gateway is configured to connect a first network to a second network, the first network being a public packet network and the second network being a private packet network, the security gateway is in the second network and the mobile terminal has a first address that depends on its current location in

the first network and a second address that identifies the mobile terminal in the second network; and

address update means for sending an update message through said secure tunnel to the security gateway when the first address changes, wherein the update message includes a new address value of the first address, and wherein the update message also includes data to be transmitted to the security gateway.

7. (Previously Presented) An apparatus according to claim 15, wherein the control unit is configured to create a dummy packet if there is no data to be sent through the secure tunnel when the first address changes.

8. (Previously Presented) An apparatus according to claim 15, wherein the control unit is configured to create an update message including a NAT-D payload configured to detect a network address translation device between the mobile terminal and the security gateway.

9. (Previously Presented) An apparatus, comprising:

tunnel establishment means for establishing a secure tunnel to a mobile terminal located at a first address in a first network, wherein the security gateway is in a second network and configured to connect the first network to a second network, the first network being a public packet network and the second network being a private packet

network, and the mobile terminal has a second address that identifies the mobile terminal in the second network;

identification means for identifying the secure tunnel based on the second address in a packet originated from the second network and destined for the mobile terminal; and

address update means for updating the first address associated with the secure tunnel, the address update means being responsive to a message received from the mobile terminal, the message including a new value of the first address.

10. (Currently Amended) A system, comprising:

tunnel establishment means for establishing a secure tunnel between a security gateway in a second network and a mobile terminal located at a first address in a first network, wherein the first network is a public packet network and the second network is a private packet network, the security gateway is configured to connect the first network to a second network, and the mobile terminal has a second address that identifies the mobile terminal in the second network;

detection means for detecting a change in the first address;

first address update means, responsive to the detection means, for sending an update message to the security gateway, wherein the update message includes a new address value of the first address, and wherein the update message also includes data to be transmitted to the security gateway;

in the security gateway, second address update means for updating the first address associated with the secure tunnel in response to the update message; and

in the security gateway, identification means for identifying the secure tunnel based on the second address in a packet originated from the second network and destined for the mobile terminal.

11. (Currently Amended) A computer useable storage medium having computer readable program code embodied therein to enable a mobile terminal to communicate with a security gateway in a packet-based communication system, the computer readable program code comprising:

computer readable program code configured to cause the mobile terminal to establish a secure tunnel to a security gateway through a packet network; wherein the security gateway is configured to connect a first network to a second network, the first network being a public packet network and the second network being a private packet network, the security gateway is in the second network and the mobile terminal has a first address that depends on its current location in the first network and a second address that identifies the mobile terminal in the second network; and

computer readable program code configured to cause the mobile terminal to send an update message through said secure tunnel to the security gateway when the first address changes, wherein the update message includes a new address value of the first

address, and wherein the update message also includes data to be transmitted to the security gateway.

12. (Currently Amended) A computer useable medium having computer readable program code embodied therein to enable a mobile terminal located at a first address in a first network to communicate with a security gateway in a packet-based communication system, the security gateway being in a second network and configured to connect a first network to a second network, the first network being a public packet network and the second network being a private packet network, and the computer readable program code comprising:

computer readable program code configured to cause the mobile terminal to send an update message through a secure tunnel to the security gateway when a first address that depends on the mobile terminal's current location in the first network changes, wherein the update message includes a new address value of the first address, and wherein the update message also includes data to be transmitted to the security gateway.

13. (Currently Amended) A method, comprising:

establishing a secure tunnel from a first network to a security gateway in a second network through a packet network; wherein the security gateway is configured to connect a first network to a second network, the first network is a public packet network and the second network is a private packet network, and the mobile terminal has a first address

that depends on its current location in the first network and a second address that identifies the mobile terminal in the second network; and

sending an update message through said secure tunnel to the security gateway when the first address changes, wherein the update message includes a new address value of the first address, and wherein the update message also includes data to be transmitted to the security gateway.

14. (Currently Amended) A method, comprising:

establishing a secure tunnel from a second network to a mobile terminal located at a first address in a first network, wherein the security gateway is configured to connect the first network to a second network, the first network is a public packet network and the second network is a private packet network, and the mobile terminal has a second address that identifies the mobile terminal in the second network;

identifying the secure tunnel based on the second address in a packet originated from the second network and destined for the mobile terminal; and

updating the first address associated with the secure tunnel~~, the address update means being responsive~~ in response to a message received from the mobile terminal, the message including a new value of the first address.

15. (Currently Amended) An apparatus, comprising:

a control unit, ~~configured to~~

a memory unit including computer program code,

the memory unit and the computer program code configured to, with the control unit, cause the apparatus at least to,

establish a secure tunnel from a first network to a security gateway in a second network through a packet network, wherein the security gateway is configured to connect a first network to a second network, the first network is a public packet network and the second network is a private packet network, and the mobile terminal has a first address that depends on its current location in the first network and a second address that identifies the mobile terminal in the second network, and

send an update message through said secure tunnel to the security gateway when the first address changes, wherein the update message includes a new address value of the first address, and wherein the update message also includes data to be transmitted to the security gateway.

16. (Currently Amended) An apparatus, comprising:

a control unit, ~~configured to~~

a memory unit including computer program code,

the memory unit and the computer program code configured to, with the control unit, cause the apparatus at least to,

establish a secure tunnel from a second network to a mobile terminal located at a first address in a first network, wherein the ~~security gateway~~ apparatus is configured to connect the first network to a second network, the first network is a public packet network and the second network is a private packet network and the mobile terminal has a second address that identifies the mobile terminal in the second network,

identify the secure tunnel based on the second address in a packet originated from the second network and destined for the mobile terminal, and

update the first address associated with the secure tunnel, being responsive to a message received from the mobile terminal, the message including a new value of the first address.

17. (Currently Amended) The apparatus of claim 16, wherein the memory unit and the computer program code configured to, with the control unit, cause the apparatus at least to, ~~further comprising a memory unit configured to~~

store a table mapping the second address with the secure tunnel, and

~~wherein the control unit is further configured to~~ use the table to identify the secure tunnel.

18. (Previously Presented) The apparatus of claim 16, further comprising a user interface configured to operate the apparatus.

19. (New) The method according to claim 13, wherein the update message is a normal data message to be transmitted to the security gateway when the change is detected.

20. (New) The method according to claim 13, wherein the sending includes creating a dummy packet and sending it as the update message to the security gateway.

21. (New) The method according to claim 13, wherein the sending includes creating an update message including a NAT-D payload configured to detect a network address translation device between the mobile terminal and the security gateway.

22. (New) The method of claim 14, further comprising:

storing a table mapping the second address with the secure tunnel; and

using the table to identify the secure tunnel.